

U.S.S.N. 10/773,916

Filed: February 6, 2004

**AMENDMENT AND RESPONSE TO
NOTICE OF DRAWING INCONSISTENCY WITH SPECIFICATION**

Amendment

In the Specification

Please replace the paragraph on page 6, lines 16-21 with the following paragraph.

Figure 1A is the alignment of the *C. kluyveri* OrfZ sequence with the N-terminal sequence and internal sequences of 4-hydroxybutyryl CoA transferase (4HBCT) from *C. aminobutyricum* (SEQ ID Nos 1 and 2. Identical residues are indicated, similar residues are indicated by *. Figure 1B and 1C are the nucleotide sequence of the *orfZ* gene from *C. kluyveri*. Figure 1C 1D is the amino acid sequence of the *orfZ* gene from *C. kluyveri*.

Please replace the paragraph spanning pages 10 and 11, with the following paragraph.

Having established the minimal requirements for the synthesis of 4-hydroxybutyrate containing PHA *in vitro*, it becomes evident that the minimal requirements for the synthesis of these PHAs *in vivo* includes a gene encoding 4-hydroxybutyrate CoA transferase or similar activity and 4-hydroxybutyrate. The substrate 4-hydroxybutyrate can be administered to the PHA producing microorganism or be synthesized *in vivo* by engineered biosynthetic pathways from appropriate substrates. Amino acid sequence was determined for the purified 4-hydroxybutyrate CoA transferase (Scherf and Buckel, Appl. Environ. Microbiol. (1991) 57:2699-2701). The purified protein was subjected to enzymatic digestion followed by amino acid sequence analysis of three of the resulting peptides. The amino acid sequence of these peptides and the N-terminus of the intact protein showed a striking homology to the OrfZ gene

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product (Figures 1A, 1B, and 1C and 1D), whose identity and function was not known, thereby identifying *orfZ* as the gene encoding 4-hydroxybutyryl CoA transferase in *C. kluyveri*. This gene was renamed *hbct*.

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